



MEMORANDUM

TO: Mayor and Council

FROM: Michael L. Personett, Interim Director
Watershed Protection Department

MLP

DATE: June 14, 2018

SUBJECT: Update on Atlas 14 Activities – Code Amendment Process

In January of this year I provided you with a memorandum alerting you to draft results of a historical rainfall study that will redefine rainfall intensities (e.g., a 100-year storm) in the Austin area. The study, which we are referring to as “Atlas 14”, is part of a nationwide effort led by the National Weather Service (NWS), in partnership with the U.S. Army Corps of Engineers, U.S. Geological Survey, the Texas Department of Transportation, the Harris County Flood Control District, the City of Austin Watershed Protection Department (WPD), and others. The results of this study are expected to be finalized and published this fall.

The Atlas 14 study is based on an updated period-of-record that considers rain events up to, and including, Hurricane Harvey. Our current design storm rainfall intensities are based on a dataset that extended through 1994. In large part due to the number of significant rainfall events that have occurred since that time, the draft results of the Atlas 14 study, a small portion of which is presented in the table below, show a significant increase in design storm rainfall intensities. When the NWS publishes the final results in the fall of this year, we do not expect them to be significantly different than those released for peer review earlier this year.

Probability of Occurrence in any Given Year	Return Period	Current Rainfall Intensity (24-hour storm)	Atlas 14 Rainfall Intensity (24-hour storm)
4%	25-year	7.6 inches	Almost 10 inches
1%	100-year	10.2 inches	Up to 13+ inches
0.2%	500-year	13.5 inches	Not yet available

Redefining rainfall intensities in Austin has far-reaching implications to understanding our community’s flood risk, City of Austin flood risk reduction policies and programs, capital

improvement projects, land use regulations, and impacts on the community as a whole. Issues of concern include:

- Buildings and Roadways in the Floodplain – Our understanding of flood risk is changing. The number of buildings that could now be impacted by a storm having a 1% chance of occurring in any given year (100-year storm) is greater by nearly 76 percent. This will include an increased probability of flooding at some City of Austin facilities. Our refined understanding of flood risk also indicates that an increased number of roadways will now be impacted by a storm having a 1% chance of occurring in any given year.
- Floodplain Regulations and Insurance – Floodplain regulations related to development within the 100-year floodplain will extend to more than 3,400 additional acres of land, which is approximately a 21 percent increase of land in the mapped floodplain. In addition, once floodplain maps are updated, Federal flood insurance requirements may apply to a larger number of properties.
- Drainage Criteria – A change in the design storm rainfall intensities will impact drainage criteria for the design of flood risk reduction projects and both public and private drainage infrastructure. For the most part, the sizing of such infrastructure will increase and associated costs will be higher.

In response to the proposed rainfall intensity changes and with the goal to continue to protect our residents from the effects of flooding, WPD is initiating a code amendment process. We believe that we have sound, scientific data that allows us to take a proactive approach to these changes instead of waiting years until we have updated floodplain studies. We plan to initiate this process with the Codes and Ordinances Joint Committee of the Planning Commission this summer. The process will include public hearings and public meetings to receive input from the Environmental Commission, the Planning Commission, external and internal stakeholders, and the City Council. After receiving input and completing the draft code amendments, staff will request your final approval of the code amendments.

WPD staff is actively involved in and is focusing our attention on the impacts that this flood risk information has on our community. As the code amendment process continues we will have a great deal more information to discuss with you. In the meantime, if you or your staff have questions please direct those to Kevin Shunk, P.E., CFM, Managing Engineer for the WPD Watershed Engineering Division at Kevin.Shunk@austintexas.gov or at (512) 974-9176.

cc: Spencer Cronk, City Manager
Assistant City Managers
Department Directors